REMARKS

Claims 1 - 15 remain active in this application. The specification has been reviewed and editorial revisions made where seen to be appropriate. Claim 1 has been amended to more fully comprehend the subject matter regarded as the invention. Support for the amendments of the claims is found throughout the application, particularly in Figure 2 and the description thereof on pages 20 - 22.   No new matter has been introduced into the application. The indication of allowability of the subject matter of claims 6 and 13 is noted with appreciation.

The Examiner has required a new copy of the application papers with increased spacing. In response, a copy of the application text, including claims, with double line spacing is supplied herewith. No changes have been made in the text as originally filed and no new matter has been introduced.

The Examiner has objected to claims 6 and 13 as depending from rejected claims. This objection is respectfully traversed since it is Applicant's position that the underlying grounds of rejection are in error as will be discussed below. Therefore, claims 6 and 13 have been maintained in dependent form.

Claim 1 has been rejected under 35 U.S.C. §103 as being unpatentable over Sazzad et al. and claims 2 - 5, 7 - 12 and 14 - 15 have been rejected under 35 U.S.C. §103 as being unpatentable over Sazzad et al. in view of Cheney et al. These grounds of rejection are respectfully traversed.

It is respectfully submitted that, while Sazzad et al. concerns decoding of a sequence of images, the constitution, purpose, function and even the environment of Sazzad et al. is very different from that of the invention. Specifically, the invention is directed to the function of scaling of images at the

location of the set-top box (STB) to provide
arbitrarily positioned images of arbitrary aspect ratio
on the display screen, possibly in a picture-in-picture
format under control of a user and is principally
concerned with problems of latency, decoding time and
minimization of additional memory and cost thereof
which may be required to do so reliably and
unconditionally. Sazzad et al., in sharp contrast is
directed to merely detecting edges of (or in) the image
prior to decoding of an image which has already been
scaled (e.g. to letterbox format), as transmitted, so
that storage (and possibly decoding) of known image
values (e.g. a black border) may be avoided. No user
control of scaling is provided by Sazzad et al. and
thus none of the problems addressed by the invention
are presented. Sazzad et al. merely eliminates
alternate (e.g. 0 and 2 or 1 and 3 from macroblocks in
encoded data corresponding to stripes of the image,
depending on whether a vertical edge or a horizontal
edge is to be detected) DC_DCT values (which correspond
to the average intensity of each block of the image)
from the set of DC_DCT values in the encoded signal,
takes the absolute value of differences in these values
and assumes an edge to be located where large
differences are found in adjacent macroblocks. See
Figures 4 and 6 and column 6, lines 43 - 53, in
particular. It should be noted that, while Sazzad et
al. states (possibly overbroadly) that "edge
information can then be used in various image
processing operations, e.g., image decoding operations"
(column 6, lines 3 - 5), the purpose is principally
"to conserve processing and memory resources" (column
6, line 22). Such a function is very different from
providing variable synchronization of decoding which
provides additional decoding time and reduces memory
requirements while allowing additional memory to be
provided in so-called "spill memory" which may be

provided at little or no cost since it need not be
provided in increments of a full field, as noted in the
paragraph bridging page 18 and 19 of the present
specification.

More specifically, Sazzad et al. does not teach
determination of a frame switch point, as admitted by
the Examiner. However, the Examiner is incorrect and
self-contradictory in stating that a sharp change in
image content indicates a change or completion of
frames of data since the fields or frames containing a
scaled image, as transmitted, also contain encoded data
representing the border. In other words, the Examiner
has confused the data of interest (e.g. the scaled
image) with the encoded data actually comprising the
video frame. Similarly, the Examiner is incorrect in
asserting that Sazzad et al. teaches synchronizing the
decoding with the bottom border of a scaled image. In
Sazzad et al., the video decoding remains synchronized
with the display field or frame in the conventional
manner but storage and possibly decoding operations are
merely suppressed based upon edge detection since the
image values on one side of an edge are presumed to be
known (e.g. the apparatus of Sazzad et al. could also
detect a horizontal or vertical edge *within* a scaled
image and deliver erroneous results).

Therefore, it is clear that Sazzad et al. does not
teach or suggest *either* of the two steps explicitly
recited in claim 1, as originally filed, and certainly
does not answer those recitations as amended above and
is thus seen to be substantially irrelevant to the
claimed subject matter. By the same token, the
Examiner has failed to make a *prima facie* demonstration
of obviousness of claim 1, the only independent claim
in the application based on Sazzad et al.

The deficiencies of Sazzad et al. to answer the
explicit recitations of claim 1 or any claim depending
therefrom are not mitigated by the teachings of Cheney

et al. While Cheney et al. is directed to minimization of DRAM through use of a spill buffer, Cheney et al. does not appear to address the problems of decoding time and storage requirements incident to providing user control of image scaling and positioning and the synchronization of decoding appears to remain fixed to the display fields or frames (see column 14, lines 28 - 44) in a currently conventional manner. Therefore, the combination of Sazzad et al. and Cheney et al. do not and cannot provide evidence of a level of ordinary skill in the art which would support a conclusion of obviousness of the subject matter of any claim, taken as a whole, particularly since neither reference applied by the Examiner seek to provide the function provided by the invention, much less recognizing or solving the problems incident to provision of user control of image scaling in which the time available for decoding may be reduced while memory requirements and latency may be increased beyond operational or economic feasibility without the meritorious effects provided by the invention. The combination of teachings of Sazzad et al and Cheney et al. certainly does not and cannot lead to an expectation of success in achieving these meritorious effects of the invention. Therefore, the Examiner has failed to make a *prima facie* demonstration of any claim based on the combination of Sazzad et al. and Cheney et al. and the asserted grounds of rejection are clearly in error and untenable for that reason.

It is also respectfully submitted that the Examiner may have come to an incomplete understanding of the invention by seeking to address the "gist" of the invention rather than properly considering the claimed subject matter as a whole; an approach which is also improper and insufficient to a *prima facie* demonstration of obviousness as discussed in detail in M.P.E.P. §2141.02. While a letterbox format is a

particular type of scaled image and control of at least storage is exercised at detected edges in Sazzad et al., the Examiner has clearly overlooked the fact that the letterbox format *and the resulting borders* are contained in the fields and frames encoded and transmitted and that Sazzad et al. does not, in fact, provide any scaling of the image locally to the decoder or in conjunction with decoding and thus the image decoded is not, in fact, a scaled image even though an image in letterbox format may be displayed. In other words, the image to be decoded or as transmitted in Sazzad et al. is not transmitted as a scaled image (but merely *containing* a scaled image) and no further scaling is taught or suggested to be applied thereto and no synchronization of decoding to any particular part of that image is taught or suggested in Sazzad et al. or is even appropriate to or would serve any useful purpose in Sazzad et al. consistent with operation of Sazzad et al. in the manner intended. See In re Gordon, 221 USPQ 12125 (Fed. Circ., 1984).

In view of the foregoing, it is respectfully submitted that the asserted grounds of rejection are clearly in error and untenable and that no *prim facie* demonstration of obviousness has been made in regard to any claim in the application. Accordingly reconsideration and withdrawal of the grounds of rejection of record are respectfully requested.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered and shown to be in error and/or inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 C.F.R. §1.111(b) and such reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 09-0457 of International Business Machines Corporation (Endicott).

Respectfully submitted,

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